

forty-four nursing students were selected. Total group throat-swabbing was done on two successive weeks. Those who had two negative swabbings (166) were classified as non-carriers and were eliminated, and the remaining 78 who were positive on one or both occasions, after further study, were divided into the persistent carrier group (20) and the intermittent carrier group (58). When *Staphylococcus aureus*, coagulase positive, was present, sensitivity tests were carried out for penicillin, erythromycin, chloramphenicol, tetracycline, novobiocin, and sulfadiazine. Those students found to be persistent carriers were given Greenberg's Polyvalent Somatic Antigen spray. Approximately 1.5cc of the vaccine spray was instilled in each nostril. Specific procedures were followed in the administration of the spray. There were no untoward reactions from the treatment. Follow-up swabs were taken every 1-2 weeks, for a total of three times. The study was in progress from November 1961 to March 1962. The percentage of persistent carriers was approximately the same for each group. The graduate nurse group showed a slightly higher percentage of intermittent carriers and also a significantly higher percentage of penicillin resistant strains than did the basic degree nurse group. A total of 233 strains of coagulase positive *Staphylococcus aureus* were isolated from the total number of students who were positive. The phage types were classified according to methods described by Blair and Carr. The largest percentage of strains in the broad phage group 80/81 were also resistant strains, thus the writers agree with previous findings that the 80/81 strains are the penicillin "hospital strains." From a total group of 244 participants the number of persistent carriers totalled 20. Seventeen received the nasal spray. A significant reduction in the growth of the *staphylococcus* organism was found, after instillation of the spray, although only one student became negative. The ability of the spray to reduce the carrier state is suggested, but a larger study on carriers is needed.—V. Boyd.

99. LONGWAY, INA MADGE. *Distress in Children Going to X-Ray*. Loma Linda University, Loma Linda, Calif., 1963. (Master's thesis.)

This study attempted to evaluate the distress incurred by children subjected to non-painful hospital procedures which need little or no preparation. The procedure of x-ray was selected as being common and typical. A series of six blood pressure readings were taken on each child, two forms of a digit span test were administered, and a process recording of observations was made of the child before and during the procedure. The subjects were twenty hospitalized children aged five to nine. A control group was also studied.

Seventy percent showed evidence of some distress, but no child exhibited marked distress or panic. Data suggested that children from large families, from the older age group and who had a medical, rather than surgical, diagnosis were least likely to show distress.—From the Author's Abstract.

100. LOURIE, REGINALD S., LAYMAN, EMMA M., AND MILLICAN, FRANCES K. Why children eat things that are not food. *Children* 10: 143-146, July-August 1963.

The staff of Children's Hospital, District of Columbia, investigated, over a period of eight years, the reason children with pica craved to eat bizarre substances not intended as food which often resulted in lead-poisoning. The investigation was designed to: 1) trace the natural history of pica; 2) describe the emotional climate in which it occurs; 3) determine its relationship to nutritional disturbances; 4) discover possible cultural aspects; 5) delineate implications for prevention. The interprofessional research team was assisted by visiting nurses who inquired about the problem of all mothers of children from one to six in every home visited. Intensive study was done on normal children and children with psychiatric diagnosis who attended pica clinic. Findings reveal that pica involves craving for a non-food substance chiefly between 18 months and two years of age. There are four ways in which pica develops: 1) as an attempt to meet oral needs when the mother is unavailable because of death, separation, or personality disturbances; 2) as excessive oral gratification due to overstimulation by the mother; 3) as aggression toward the mother resulting from earlier conflicts over feeding; 4) as accentuated or perpetuated behavior due to brain damage affecting perceptual and motor development. The maternal personality syndrome most frequently conducive to pica is the combination of passivity and dependency found in low socio-economic status requiring clinic personnel to go to the mothers since they do not readily come to the clinic. No correlation was found between nutritional deficiencies and pica by these investigators. Pica is more prevalent among children whose mothers have pica and who come from communities where clay eating and starch eating are part of the cultural pattern. The attitude of these mothers toward pica is permissive. The adoption of routine inquiry into ingestion of non-edible substances during history-taking has led to regarding all pica cases as presumptive lead-poisoning with a 300 percent increase in pre-symptomatic diagnosis.—L. Perry.

101. MARGILETH, A. M., AND MUSELES, M. The value of office bacteriology in the diagnosis of streptococcal pharyngitis. *Military*

*Medicine* 128:871-879, September 1963.

This is a report of a study conducted on the military dependents visiting the pediatric out-patient department of Chelsea Naval Hospital, 1958-1962. The primary aims were to establish a simple culture technique as a routine procedure for early detection of beta hemolytic streptococcal infections in children; to determine the incidence of beta hemolytic streptococcal infections in the patients utilizing the facility; to determine the incidence of carriers in family contacts; to evaluate clinicians' ability to recognize streptococcal pharyngitis; and to evaluate the frequency of unnecessary antibiotic therapy in various types of pharyngitis. At the initial clinic visit throat cultures were made on seven percent sheep agar in conjunction to a personal history, clinic diagnosis, and notation of use of antibiotic therapy. During the last 18 months of the study a system of classification of pharyngeal and lymph node findings was introduced to extend the use of the data collected. The results show that 13 percent of the 20,319 ENT cultures done were found to contain beta hemolytic streptococcus. The authors report an enhancement of clinical diagnosis when correlated with laboratory findings. As a result of the significant findings, the laboratory procedure has been established as a routine measure in the evaluation of patients with pharyngitis, urinary infections, and other disorders, such as dermatoses or abscesses. From the intensified data tabulation methods established during 1961-62, the authors were able to show from the 7,320 cultures done: 1) There was a 13 percent average incidence of beta hemolytic streptococcal pharyngitis. 2) The accuracy of clinical diagnoses of streptococcal pharyngitis when correlated with laboratory findings was never better than 33 percent. 3) That 44 percent of the time, unnecessary antibiotic therapy was used in treatment of pharyngitis associated with normal flora. 4) The average incidence of beta hemolytic streptococcal cultures on family contacts was nine percent. The authors recommend the routine practice of office bacteriology as an adjunct procedure for all outpatient clinics.—M. Berry.

102. MICKEY, JANICE E. Findings of study of extra-hospital nursing needs. *American Journal of Public Health* 53:1047-1057, July 1963.

The purpose of this study was to develop a procedure for estimating extra-hospital nursing needs of the general population. Such information is valuable both for planning types of services and for estimating staffing patterns. The basis of the method used was a single nursing interview of a random sample of the population of one county (Butler County, Pa.,